

FORM A: BID
(See B8)

1. Contract Title SUPPLY & DELIVERY OF SANDER SPREADER CHASSIS

2. Bidder

Name of Bidder

Usual Business Name of Bidder as it appears on Invoice (if different from above)

Street

City

Province

Postal Code

(Mailing address if different)

Email Address of Bidder

Facsimile Number

Street or P.O. Box

City

Province

Postal Code

(Choose one)

GST Registration Number (if applicable)

The Bidder is:

a sole proprietor

a partnership

a corporation

carrying on business under the above name.

3. Contact Person

The Bidder hereby authorizes the following contact person to represent the Bidder for purposes of the Bid.

Contact Person

Title

Telephone Number

Facsimile Number

Email Address

4. Definitions

All capitalized terms used in the Contract shall have the meanings ascribed to them in the General Conditions and D3.

5. Offer The Bidder hereby offers to perform the Work in accordance with the Contract for the price(s), in Canadian funds, set out on Form B: Prices, appended hereto.

6. Commencement of the Work The Bidder agrees that no Work shall commence until he/she is in receipt of a notice of award from the Award Authority authorizing the commencement of the Work.

7. Contract The Bidder agrees that the Bid Opportunity in its entirety shall be deemed to be incorporated in and to form a part of this offer notwithstanding that not all parts thereof are necessarily attached to or accompany this Bid.

8. Addenda The Bidder certifies that the following addenda have been received and agrees that they shall be deemed to form a part of the Contract:

No.	_____	Dated	_____
	_____		_____
	_____		_____

9. Time This offer shall be open for acceptance, binding and irrevocable for a period of sixty (60) Calendar Days following the Submission Deadline.

10. Signatures The Bidder or the Bidder's authorized official or officials have signed this _____ day of _____, 20_____.

Signature of Bidder or
Bidder's Authorized Official or Officials

(Print here name and official capacity of individual whose signature appears above)

(Print here name and official capacity of individual whose signature appears above)

FORM B: PRICES
(See B9)

SUPPLY & DELIVERY OF SANDER SPREADER CHASSIS

UNIT PRICES

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	QUANTITY	UNIT PRICE
1.	39,000 lbs. Singe Axle Chassis	15009	Each	5	\$
2.	58,000 lbs. Tandem Axle Chassis	15010	Each	16	\$

Name of Bidder

FORM N: DETAILED SPECIFICATIONS 15009

SINGLE AXLE CHASSIS

1.0 DESCRIPTION OF EQUIPMENT

- 1.1 These specifications describe Single Axle Sander Spreader Chassis and other equipment and features as specified herein. The Single Axle Sander Spreader Chassis will be re-mounted with current City owned Tenco 10' x 8' sander/dump body installed at a later date. It is the responsibility of the bidder to ensure the cab to axle measurement, frame rail after-frame measurement length, cross-member spacing, existing frame clearance and available component space is adequate for the 10' x 8' sander/dump body mid mount spinner and the existing components. Viewing of the existing trucks can be coordinated through the Contract Administrator as per D4.1
- 1.2 The Single Axle Sander Spreader Chassis shall be a new 2015 model year or newer.
- 1.3 The Single Axle Sander Spreader Chassis and all other items/components shall be the manufacturer's latest model. The vehicles shall be furnished complete and ready for operation. Any parts or accessories not specifically mentioned, but which are required to complete and place the vehicles and associated attachments in successful operation shall be furnished as though specifically mentioned in these specifications. The vehicles and associated attachments, and all parts thereof, shall conform in strength and quality of material and workmanship, to the best standards and engineering practice of the industry.
- 1.4 It will be the responsibility of the Bidder to inform the City of any errors or omissions in these specifications, for under this Contract the Contractor shall be held responsible for the satisfactory operational function of the equipment.

2.0 OTHER SPECIFICATIONS AND STANDARDS

- 2.1 All applicable SAE standards form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 2.2 The **Single Axle Sander Spreader Chassis** shall comply with the applicable regulations:
- National Safety Mark, NSM
 - Manitoba Safety and Health Act, Parts 12, 22
 - Canadian Standards Association, CSA
 - Under Writers of Canada, U/L
 - Society of Automotive Engineers, SAE
 - City of Winnipeg Lighting Visibility
Standard=<http://winnipeg.ca/matmgt/pdfs/PublicWorksEquipLightingVisibility.pdf>.
- 2.3 It will be the responsibility of the Bidder to inform the City of any deficiencies in these specifications, for under this Contract the Contractor shall be held responsible for the design, performance, reliability and satisfactory operational function of the units.

3.0 SERVICE FACILITY

- 3.1 For the purpose of warranty repairs, the Bidder shall have an authorized service facility located within 10 km of the boundaries of the City of Winnipeg. The facility, or a portion thereof, shall be dedicated to the service and maintenance of the type equipment being offered. Further to B9.1, Bidders shall provide a description of the service facility including, but not limited to, number of qualified service staff, years of service experience, and general service capabilities within three (3) Business Days upon request of the Contract Administrator.

4.0 REFERENCES

- 4.1 Provide five (5) Canadian references where this equipment is used in a working environment where climatic conditions are similar to the City of Winnipeg.

5.0 MAKE & MODEL

- 5.1 **State** make and model of the equipment bid- _____

6.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

- 6.1 Each bid will be evaluated based on adherence to all terms, conditions and requirements outlined in the Bid Opportunity package.

- 6.2 All items in these specifications must be answered indicating compliance or non-compliance. **BIDDERS SHALL STATE "YES" FOR COMPLIANCE OR STATE DEVIATION**, or give reply where requested to do so. Deviations shall be clearly stated and fully detailed. Alternatives will be considered subject to evaluation.

- 6.3 **EACH BIDDER IS REQUIRED TO FILL IN EVERY BLANK. FAILURE TO DO SO MAY BE USED AS A BASIS FOR REJECTION OF BID**

7.0 PERFORMANCE RELIABILITY

- 7.1 The responsibility for the design of the Single Axle Sander Spreader Chassis, its performance and reliability shall rest upon the Contractor.

- 7.2 The term "repeated failures" as used herein is defined to mean that the same component, subassembly, or assembly develops repeated defects, breakdowns and/or malfunctions rendering the vehicle inoperative, or requiring repeated shop correction, service and/or replacement during the warranty period applicable for said component, subassembly, of assembly. Minor items or ordinary service adjustments are not included, or considered under the scope of "repeated failures", as well as other factors, such as operational damage due to accidents, misuse or lack of proper maintenance, service and lubrication attention by not following the manufacturer's preventative maintenance schedule.

- 7.3 Where the Single Axle Sander Spreader Chassis develops "repeated failures" in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.

- 7.4 The equipment shall be capable of consistent top performance in City of Winnipeg Environment. Note: The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C)

8.0 FUEL

- 8.1 All vehicles must be fully fuelled upon delivery (no exceptions).

9.0 QUALIFICATIONS OF MANUFACTURER & CONTRACTOR

- 9.1 The manufacturer of the Single Axle Sander Spreader Chassis shall have five (5) years continuous experience manufacturing Single Axle Sander Spreader Chassis.
- 9.2 The manufacturer shall have in effect a documented quality control program ensuring that the quality of materials and workmanship, including welding, conforms to the best standards and engineering practice of the industry.
- 9.3 The Contractor shall have five (5) years continuous experience servicing, repairing and maintaining Single Axle Sander Spreader Chassis of the type being offered.

10.0 SPECIFICATIONS-

GVWR-

- 10.1 Total 39,000 lbs. _____
- 10.2 Front 16,000 lbs. _____
- 10.3 Rear 23,000 lbs. _____

DIMENSIONS-

- 10.4 Wheelbase As required for 10' x 8' Tenco sander/dump body installed at a later date _____
- 10.5 Cab to Axle As required for 10' x 8' Tenco sander/dump body installed at a later date _____
- 10.6 Turning radius **State-** _____

ENGINE-

- 10.7 Type Tier IV Final Diesel, inline 6-cylinder. Engines shall be warranted to use biodiesel at a B10 blend level (10% biodiesel to 90% ultra low sulphur diesel), where the biodiesel will meet product specification ASTM D 6751 to ensure fuel quality. Engine must meet the most current EPA standards. Anti-idling programming programming to set at 15 minute shut down _____
- 10.8 Horsepower Shall have 330 HP gross or greater _____
- 10.9 Torque Shall have 1000 lb-ft or greater _____
- 10.10 Engine shut down Low oil pressure / high water temperature _____
- 10.11 Anti-idling programming Programming to be determined upon pre-production meeting. _____
- 10.12 Starting Aid Cold weather starting aid required _____
- 10.13 Fuel Shut-off Electric solenoid type _____
- 10.14 Air intake Under hood outside air intake provision c/w under hood air valve, dash mtd. actuated, required for snow-plow application. _____

10.15	Air cleaner	Dry type, suitable for snow-plow application	_____
10.16	Air intake restriction indicator	Restriction indicator dash mounted	_____
10.17	Oil drain plug	Magnetic type	_____
10.18	Oil filter	Full flow spin-on type	_____
10.19	Fuel filter	Spin-on type	_____
10.20	Fuel/water separator	Heated, drainable, mounted under hood, located to be protected from road spray	_____
10.21	Fuel line primer pump	Required	_____
10.22	Block heater	Immersion type, 1000 Watt with covered recessed male plug, located under driver's side door	_____
10.23	Coolant	Extended Life coolant, antifreeze to -40°F (-40°C)	_____
10.24	Coolant filter	Required	_____
10.25	Coolant hoses	Premium hoses	_____
10.26	Fan Drive	Thermostatically controlled, automatic type	_____
10.27	Air compressor	Water cooled, pressure lubricated, 18 cfm	_____
10.28	PTO Provision	Front engine PTO with adapter plate.	_____

ELECTRICAL SYSTEM-

10.29	Electrical System	Point to point	_____
10.30	Multiplex Wiring	State optional pricing of multiplex wiring if available-	_____
10.31	Starter/Alternator	Delco Remy with thermal over crank protection and Brushless 160 amp	_____
10.32	Circuit breakers	Auto-reset, readily accessible	_____
10.33	Batteries	Three (3) maintenance free (12)-volt, group 31, 2775 CCA combined capacity	_____
10.34	Battery Box	Under seat, under cab or frame mounted c/w enclosure, not to impede with body installation.	_____
10.35	Battery disconnect	In-cab mounted	_____
10.36	Remote boost terminal	Remote battery boost terminal(s) with cover(s)	_____
10.37	Cab marker lights	LED located in exterior sun shade, visor or cab roof Mounted.	_____
10.38	Trailer plug wiring	Routed to end of frame plus 3 extra feet of wiring, c/w 6-pole plastic socket. Wiring shall be circuit breaker protected, wired separately from main	_____

		truck lighting	_____
10.39	2-way radio circuit	Independent 20 Amp circuit, ignition powered, wired under dash loose, labelled	_____
10.40	Accessory switches	Six (6) required, dash mtd. for "Beacon", "Plow lights" and additional switch labelled "Aux". All switches complete and wired for body installation, labeled and backlit	_____

EXHAUST SYSTEM-

10.41	Configuration	Single horizontal, after treatment frame mounted Right hand side under cab with vertical tail pipe. Exhaust tip height to be determined upon a Pre-production meeting. Shall not impede with body installation.	_____
10.42	Heat shield	Required over exhaust next to cab door	_____

TRANSMISSION-

10.43	Model	Allison 3000 RDS with 6-speed programming with load Base Management System . (Bidder must provide a Allison performance SCAAN with the bid submission)	_____
10.44	Shift selector	Digital push-button type, dash mounted	_____
10.45	Fluid	Synthetic	_____
10.46	Cooling capacity	As per manufacturer's recommendation for severe duty cycle	_____
10.47	Oil level dipstick	Bayonet type with high and low level markings	_____
10.48	Trans. drain plug	Magnetic type	_____
10.49	Ground speed signal	Ground speed signal provision required	_____

FRONT AXLE-

10.50	Type	Must be Meritor 16,000 lbs. capacity	_____
10.51	Fluid	Synthetic	_____

REAR AXLE-

10.52	Type	Must be Meritor 23,000 lbs. capacity	_____
10.53	Ratio	As per in city usage, sander spreader snow plow and dump application and for 110 km/hr top speed, state ratio-	_____
10.54	Differential lock(s)	Required for drive axle w/dash mtd. Switch	_____
10.55	Fluid	Synthetic	_____

HUBS/ HUB SEALS-

10.56	Hub seals	Oil lubricated front and rear	_____
10.57	Hubs	Aluminum front & rear hubs, state-	_____

FRONT SUSPENSION-

10.58	Type	Taper leaf spring suspension 16,000 lbs. capacity	_____
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REAR SUSPENSION-

10.59	Type	Air ride suspension, 23,000 lbs. capacity. Suspension must be suited for sander spreader snow-plow and dump application.	_____
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10.60	Susp. control valve	Manual dump valve for air suspension c/w dash mounted switch, indicator light, gauge and buzzer	_____
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RIMS, WHEELS-

10.61	Front	22.5 x 9.00 aluminum wheels, aluminum hub Piloted	_____
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10.62	Rear	22.5 x 8.25 aluminum wheels, aluminum hub piloted	_____
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TIRES, FRONT-

10.63	Front Tires-	(Mud & Snow) Front steer tires must be suitable for application and Province of Manitoba weather conditions, state make & model of tires-	_____
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10.64	Size	315/80R 22.5, 20-ply rated for request front GVWR	_____
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TIRES, REAR-

10.65	Rear Tires-	(Mud & Snow). Rear Drive tires must be suitable for application and Province of Manitoba weather conditions, state make & model of tires-	_____
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10.66	Size	11R 22.5, 16-ply rated for request rear GVWR	_____
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FRAME-

10.67	Type	Single rail only, suitable for requested GVWR and application. Frame rail must meet the RBM strength required for the request Gross Vehicle Weight Rating	_____
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10.68	Application	Suitable for sand spreader, snow-plow and dump body application with a mid mount spinner.	_____
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10.69	Chassis fasteners	Grade-8 threaded hex headed frame fasteners	_____
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10.70	Front frame extension	Integral type, 20-24 in., state length-	_____
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10.71	After-frame	As required for aluminum 10' x 8' U-Body Combination Dump/Spreader Body/Snow Plow	_____
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STEERING-

10.72	Type	Heavy-duty power, synthetic oil preferred, rated for GVWR	_____
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BRAKES-

10.73	Type	Air, ABS, S-cam drum brakes, front & rear	_____
10.74	Slack adjusters	Meritor (clearance sensing), automatic type	_____
12.75	Parking brake	Spring set, four (4) chamber system	_____
10.76	Brake pots	Vented type	_____
10.77	Dust shields	Required, front and rear	_____
10.78	Moisture ejector	Bendix DV-2, heated to wet tank	_____
10.79	Drain valves	Manual chain or cable operated, required on each air tank	_____
10.80	Air dryer	Wabco System Saver 1200	_____
10.81	Air Tanks	Must be aluminum or Stainless steel or aluminum straps with minimum 1/16 in. rubber or neoprene isolators to prevent galvanic corrosion	_____

FUEL TANK-

10.82	Type	Aluminium, 225 L capacity, fully fuelled upon delivery, state location-	_____
10.82.1	Option	Bidder shall state optional price for the largest fuel tank(s) combination, but not to exceed the back of cab and not impede in body installation.	_____
10.83	Tank straps	Stainless steel or aluminum straps with minimum 1/16 in. rubber or neoprene isolators to prevent galvanic corrosion	_____
10.84	Fuel separator	Heated, drainable	_____

CAB-

10.85	Type	Conventional w/corrosion inhibitor	_____
10.86	Construction	Aluminum or galvanized steel	_____
10.87	Front bumper to back of cab BBC	106"- 117"	_____
10.88	Cab mounts	Air suspension	_____
10.89	Front grille	Stationary type	_____
10.90	Cab interior / trim	Extreme climate insulation including cloth or vinyl headliner on roof, door panels and rear interior of cab	_____
10.91	Cab silencer package	Required for minimal decibel level	_____
10.92	Hood/Firewall/Engine	Insulated hood liner, engine cover and firewall	_____

10.93	Floor covering	Rubber mat with under-padding	_____
10.94	Floor mats	Two (2) heavy-duty rubber	_____
10.95	Driver's seat	High back, air suspension w/foldable armrests, lumbar support, heavy-duty cloth upholstery, complete with seat covers.	_____
10.96	Passenger seat	High back or mid back stationary mount non-suspension Passenger seat, heavy-duty cloth upholstery, complete with seat covers.	_____
10.97	Sun visors	Dual flip-up type	_____
10.98	Steering wheel	Tilt and telescopic type	_____
10.99	12-Volt power outlet	(2) Required	_____
10.100	Radio	Factory installed AM/FM/CD with blue tooth hands free capability	_____
10.101	Starter switch	Key operated c/w three (3) sets of keys	_____
10.102	Interior light	Dome light with driver and passenger door switches	_____
10.103	Heater / Defroster	High output, capable of keeping all windows clear at an outside temperature of -35°F (-37°C)	_____
10.104	Air conditioning	Required	_____
10.105	Brake & accel. pedals	Floor or hanging type brake and accelerator pedal, State-	_____
10.106	Horn	Dual electric	_____
10.107	Exterior mirrors	Dual heated, lighted exterior mirrors. Shall come with convex mirrors. Suitable for 102 in. equipment width	_____
10.108	Down view mirror	Required over passenger door, state size-	_____
10.109	Windows & windshield	Factory Tint	_____
10.110	Power windows	Required on driver and passenger side. Controls for both windows required on driver side	_____
10.111	Windshield wipers	Electric, intermittent	_____
10.112	Wiper blades	Snow type with sealed boot preferred.	_____
10.113	Windshield washers	Electric, required with spray nozzles on wiper Blades preferred.	_____
10.114	Grab handles	Dual exterior	_____
10.115	Entrance steps	Dual each side, open grate / grip type	_____
10.116	Winter front	Heavy-duty vinyl w/twist lock or snap type fasteners	_____

10.117	Fender extensions	Front Fender extensions required	_____
10.118	Exterior Visor	Exterior sun visor required	_____
10.119	Dash	Wing type dash for operator convenience preferred	_____
10.120	Fender Mtd. Mirrors & Snow Plow Lighting Wiring Provisions	Factory installed fender mounted mirrors with Snow Plow Lighting wiring provisions for body builder installed Snow Plow lights.	_____
10.121	Flare kit	Required, state location	_____
10.122	Fire Extinguisher	(5) lbs. required, state location	_____
10.123	First aid kit	Required, state location	_____

INSTRUMENTATION-

10.124	Oil pressure	Gauge	_____
10.125	Coolant temperature	Gauge	_____
10.126	Transmission oil temp.	Gauge	_____
10.127	LOP/HWT	Warning light and buzzer	_____
10.128	Voltmeter	Gauge	_____
10.129	Air reservoir pressure	Gauge with LAP warning light and buzzer	_____
10.130	Engine hour-meter	Required, non-resettable type	_____
10.130.1	Weight Scale-	OEM installed Model "Air-Weigh Truck Scales" dash mounted. Shall be able to provide steer and drive axles weights.	_____

TOW HOOKS-

10.131	Location	(2) front inside frame rail, (2) rear mounted	_____
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FRONT BUMPER-

10.132	Type	Front bumper delete	_____
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COLOUR-

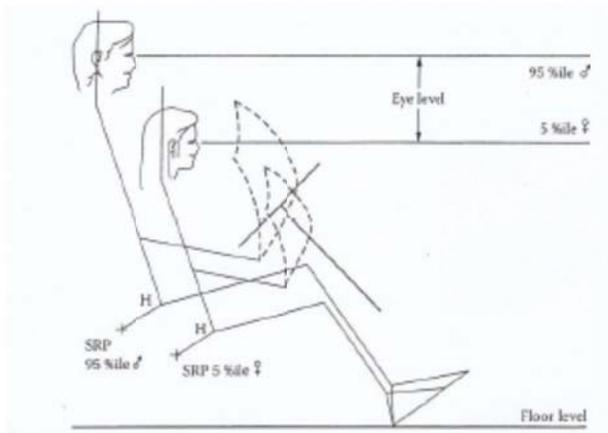
10.133	Exterior	White	_____
10.134	Interior	Blue or grey	_____
10.135	Frame & suspension	Primed and finished with black Imron 5000 paint	_____

ACCESSORIES-

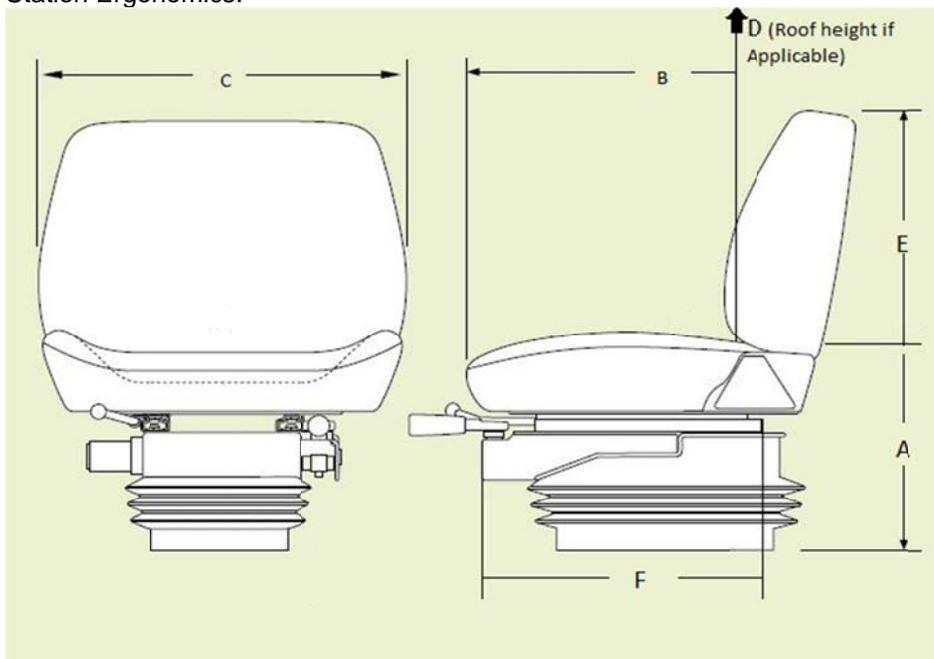
10.136	Nut Indicators	Wheel nut indicators on all wheel lug nuts required	_____
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**OPERATOR STATION
 ERGONOMICS**

10.137 Cab or station layout should provide a comfortable seating position for the 5th to the 95th percentile of personnel. Figure 1 below illustrates the variance between a 5th to a 95th percentile of North American males and females when seated.



10.138 Figure 2: Use the below diagram to answer the specifications for Operator Station Ergonomics.



- | | | | |
|--------|---|--|-------|
| 10.139 | Sitting height range from floor (where feet rest) (A) | State , seat height range in inches | _____ |
| 10.140 | Seat length/depth (B) | State , seat length/depth in inches | _____ |
| 10.141 | Seat width (C) | State , seat width in inches | _____ |
| 10.142 | Cab height from seat to roof (if applicable) (D) | State , cab height range in inches | _____ |

- 10.143 Back rest height (E) **State**, back rest height in inches _____
- 10.144 Seat travel range (F) **State**, seat travel in inches _____
- 10.145 Include any other relevant ergonomic specifications and applicable range of adjustment _____

WARRANTY

- 10.146 All warranty information shall be detailed and include all exclusions. The successful bidder shall provide all published warranty information upon delivery of the equipment. Bidder shall state all warranty information. _____
- 10.147 Basic Vehicle One (1) year, unlimited km, **state-** _____
- 10.148 Batteries One (1) year, unlimited km **state-** _____
- 10.149 Drivetrain Two (2) years, unlimited km **state-** _____
- 10.150 Cab structure/
corrosion Five (5) years, unlimited km **state-** _____
- 10.151 Frame &
Cross-members Five (5) years, unlimited km **state-** _____
- 10.152 Cab paint One (1) year or 100 000 km **state-** _____
- 10.153 Engine Three (3) years or 240 000 km **state-** _____
- 10.154 Transmission Two (2) years, unlimited km **state-** _____
- 10.155 Axles, front & rear Two (2) years or 161 000 km **state-** _____

DELIVERY & DELIVERY SCHEDULE-

- 10.156 **Delivery Point:** The complete unit shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.I.V.S. (if applicable) to the WFMA 185 Tecumseh Street, Winnipeg MB. The successful bidder shall be notified by the Contractor Administrator the delivery address prior to issuance of the purchase order _____
- 10.157 **Delivery Time:** The (5) Single Axle Sander Spreader Chassis Vehicles shall be delivered between no later than Dec 1st, 2015 and December 15th, 2015. Equipment shall be delivered between 8:00 am and 3:00 pm on Business Days. _____
- 10.158 **Delivery Contact:** The Contractor shall contact the Contract Administrator prior to delivery of the equipment. _____
- 10.159 **P.D.I.:** A pre-delivery inspection shall be performed by the Contractor on the equipment. Proof upon inspection including completed check list _____

MANUALS

- 10.160 Manuals supplied under this contract. The manuals shall cover the complete equipment including all components thereof, CD is preferred where available. _____
- 10.161 The following manuals shall be supplied with the units when delivered:
- a) Operator's manual – Two (2) per unit (one operator manual shall be sent to the Equipment Operator Training Branch) _____
 - b) Parts and service manuals – one (1) complete sets including preventative maintenance schedules. CDs or memory sticks are preferred _____
 - c) **State** optional price for online resources subscriptions and diagnostic tooling \$_____
 - d) **State** optional price for towing coverage- \$_____

FORM N: DETAILED SPECIFICATIONS 15010

TANDEM AXLES

1.0 DESCRIPTION OF EQUIPMENT

- 1.1 These specifications describe Tandem Axle Sander Spreader Chassis and other equipment and features as specified herein. Twelve (12) Tandem Axle Sander Spreader Chassis will be re-mounted with current City owned Viking 13' x 8' sander/dump bodies installed at a later date here in Winnipeg Manitoba. Four (4) Tandem Axle Sander Spreader Chassis will be mounted with 13' x 8' sander/dump body installed at a later date. The successful bidder will be notified as to the drop ship location to the body manufacturer. It is the responsibility of the bidder to ensure the cab to axle measurement, frame rail after-frame measurement length, cross-member spacing, existing frame clearance and available component space is adequate for the 13' x 8' sander/dump body mid mount spinner and the existing components. Viewing of the existing trucks can be coordinated by the Contract Administrator as per D4.1
- 1.2 The Tandem Axle Sander Spreader Chassis shall be a new 2015 model year or newer.
- 1.3 The Tandem Axle Sander Spreader Chassis and all other items/components shall be the manufacturer's latest model. The vehicles shall be furnished complete and ready for operation. Any parts or accessories not specifically mentioned, but which are required to complete and place the vehicles and associated attachments in successful operation shall be furnished as though specifically mentioned in these specifications. The vehicles and associated attachments, and all parts thereof, shall conform in strength and quality of material and workmanship, to the best standards and engineering practice of the industry.
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- 2.1 All applicable SAE standards form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 2.2 The Tandem Axle Sander Spreader Chassis shall comply with the applicable regulations:
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Standard=<http://winnipeg.ca/matmgt/pdfs/PublicWorksEquipLightingVisibility.pdf>.
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- 7.1 The responsibility for the design of the Tandem Axle Sander Spreader Chassis, its performance and reliability shall rest upon the Contractor.

- 7.2 The term "repeated failures" as used herein is defined to mean that the same component, subassembly, or assembly develops repeated defects, breakdowns and/or malfunctions rendering the vehicle inoperative, or requiring repeated shop correction, service and/or replacement during the warranty period applicable for said component, subassembly, of assembly. Minor items or ordinary service adjustments are not included, or considered under the scope of "repeated failures", as well as other factors, such as operational damage due to accidents, misuse or lack of proper maintenance, service and lubrication attention by not following the manufacturer's preventative maintenance schedule.

- 7.3 Where the Tandem Axle Sander Spreader Chassis develops "repeated failures" in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.

- 7.4 The equipment shall be capable of consistent top performance in City of Winnipeg Environment. Note: The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C)

8.0 FUEL

- 8.1 All vehicles must be fully fuelled upon delivery (no exceptions).

9.0 QUALIFICATIONS OF MANUFACTURER & CONTRACTOR

- 9.1 The manufacturer of the Tandem Axle Sander Spreader Chassis shall have five (5) years continuous experience manufacturing Tandem Axle Sander Spreader Chassis.
- 9.2 The manufacturer shall have in effect a documented quality control program ensuring that the quality of materials and workmanship, including welding, conforms to the best standards and engineering practice of the industry.
- 9.3 The Contractor shall have five (5) years continuous experience servicing, repairing and maintaining Tandem Axle Sander Spreader Chassis of the type being offered.

10.0 SPECIFICATIONS-

GVWR-

- 10.1 Total 58,000 lbs. _____
- 10.2 Front 18,000 lbs. _____
- 10.3 Rear 40,000 lbs. _____

DIMENSIONS-

- 10.4 Wheelbase As required for Viking Cives 13' x 8' sander/dump body installed at a later date _____
- 10.5 Cab to Axle As required for Viking Cives 13' x 8' sander/dump body installed at a later date _____
- 10.6 Turning radius **State-** _____

ENGINE-

- 10.7 Type Tier IV Final Diesel, inline 6-cylinder. Engines shall be warranted to use biodiesel at a B10 blend level (10% biodiesel to 90% ultra low sulphur diesel), where the biodiesel will meet product specification ASTM D 6751 to ensure fuel quality. Engine must meet the most current EPA standards. Anti-idling programming programming to set at 15 minute shut down. _____
- 10.8 Horsepower Shall have 370 HP gross or greater _____
- 10.9 Torque Shall have 1250 lb-ft or greater _____
- 10.10 Engine shut down Low oil pressure / high water temperature _____
- 10.11 Anti-idling programming Programming to be determined upon pre-production meeting. _____
- 10.12 Starting Aid Cold weather starting aid required _____
- 10.13 Fuel Shut-off Electric solenoid type _____
- 10.14 Air intake Under hood outside air intake provision c/w under hood air valve, dash mtd. actuated, required for snow-plow application. _____

10.15	Air cleaner	Dry type, suitable for snow-plow application	_____
10.16	Air intake restriction indicator	Restriction indicator dash mounted	_____
10.17	Oil drain plug	Magnetic type	_____
10.18	Oil filter	Full flow spin-on type	_____
10.19	Fuel filter	Spin-on type	_____
10.20	Fuel/water separator	Heated, drainable, mounted under hood, located to be protected from road spray	_____
10.21	Fuel line primer pump	Required	_____
10.22	Block heater	Immersion type, 1000 Watt with covered recessed male plug, located under driver's side door	_____
10.23	Coolant	Extended Life coolant, antifreeze to -40°F (-40°C)	_____
10.24	Coolant filter	Required	_____
10.25	Coolant hoses	Premium hoses	_____
10.26	Fan Drive	Thermostatically controlled, automatic type	_____
10.27	Air compressor	Water cooled, pressure lubricated, 18 cfm	_____
10.28	PTO Provision	Front engine PTO with adapter plate.	_____
<u>ELECTRICAL SYSTEM-</u>			
10.29	Electrical System	Point to point.	_____
10.30	Multiplex Wiring	State optional pricing of multiplex wiring if available-	_____
10.31	Starter/Alternator	Delco Remy with thermal over crank protection and Brushless 160 amp	_____
10.32	Circuit breakers	Auto-reset, readily accessible	_____
10.33	Batteries	Three (3) maintenance free (12)-volt, group 31, 2775 CCA combined capacity	_____
10.34	Battery Box	Under seat, under cab or frame mounted c/w enclosure, not to impede with body installation.	_____
10.35	Battery disconnect	In-cab mounted	_____
10.36	Remote boost terminal	Remote battery boost terminal(s) with cover(s)	_____
10.37	Cab marker lights	LED located in exterior sun shade, visor or cab roof Mounted.	_____

10.38	Trailer plug wiring	Routed to end of frame plus 3 extra feet of wiring, c/w 6-pole plastic socket. Wiring shall be circuit breaker protected, wired separately from main truck lighting	_____
10.39	2-way radio circuit	Independent 20 Amp circuit, ignition powered, wired under dash loose, labelled	_____
10.40	Accessory switches	Six (6) required, dash mtd. for "Beacon", "Plow lights" and additional switch labelled "Aux". All switches complete and wired for body installation, labeled and backlit	_____

EXHAUST SYSTEM-

10.41	Configuration	Single horizontal, after treatment frame mounted Right hand side under cab with vertical tail pipe. Exhaust tip height to be determined upon a Pre-production meeting. Shall not impede with body installation.	_____
10.42	Heat shield	Required over exhaust next to cab door	_____

TRANSMISSION-

10.43	Model	Allison 3000 RDS with 6-speed programming with load Base Management System . (Bidder must provide a Allison performance SCAAN with the bid submission)	_____
10.44	Shift selector	Digital push-button type, dash mounted	_____
10.45	Fluid	Synthetic	_____
10.46	Cooling capacity	As per manufacturer's recommendation for severe duty cycle	_____
10.47	Oil level dipstick	Bayonet type with high and low level markings	_____
10.48	Trans. drain plug	Magnetic type	_____
10.49	Ground speed signal	Ground speed signal provision required	_____

FRONT AXLE-

10.50	Type	Must be Meritor 18,000 lbs. capacity	_____
10.51	Fluid	Synthetic	_____

REAR AXLE-

10.52	Type	Must be Meritor 40,000 lbs. capacity	_____
10.53	Ratio	As per in city usage, sander spreader snow plow and dump application and for 110 km/hr top speed, state ratio-	_____
10.54	Differential lock(s)	Required for both drive axles w/dash mtd. Switch	_____

10.55	Fluid <u>HUBS/ HUB SEALS-</u>	Synthetic	_____
10.56	Hub seals	Oil lubricated front and rear	_____
10.57	Hubs	Aluminum front & rear hubs, state-	_____
	<u>FRONT SUSPENSION-</u>		
10.58	Type	Taper leaf spring suspension 18,000 lbs. capacity	_____
	<u>REAR SUSPENSION-</u>		
10.59	Type	Air ride suspension, 46,000 lbs. capacity. Suspension must be suited for sander spreader snow plow and dump application.	_____
10.60	Susp. control valve	Manual dump valve for air suspension c/w dash mounted switch, indicator light, gauge and buzzer	_____
	<u>RIMS, WHEELS-</u>		
10.61	Front	22.5 x 12.25 aluminum wheels, aluminum hub Piloted	_____
10.62	Rear	22.5 x 8.25 aluminum wheels, aluminum hub piloted	_____
	<u>TIRES, FRONT-</u>		
10.63	Front Tires-	(Mud & Snow) Front steer tires must be suitable for application and Province of Manitoba weather conditions, state make & model of tires-	_____
10.64	Size	385/65R 22.5, 20-ply rated for request front GVWR	_____
	<u>TIRES, REAR-</u>		
10.65	Rear Tires-	(Mud & Snow). Rear Drive tires must be suitable for application and Province of Manitoba weather conditions, state make & model of tires-	_____
10.66	Size	11R 22.5, 16-ply rated for request rear GVWR	_____
	<u>FRAME-</u>		
10.67	Type	Single rail only, suitable for requested GVWR and application. Frame rail must meet the RBM strength required for the request Gross Vehicle Weight Rating	_____
10.68	Application	(12 tandems) to suitable for sand spreader, snow-plow and dump body application with a mid mount spinner. (4 tandems) to suitable for sand spreader, snow-plow and dump body application with a rear mount spinner.	_____
10.69	Chassis fasteners	Grade-8 threaded hex headed frame fasteners	_____
10.70	Front frame extension	Integral type, 20-24 in., state length-	_____

10.71 After-frame As required for aluminum 13' x 8' U-Body Combination
 Dump/Spreader Body/Snow Plow _____

STEERING-

10.72 Type Heavy-duty power, synthetic oil preferred, rated for
 GVWR _____

BRAKES-

10.73 Type Air, ABS, S-cam drum brakes, front & rear _____

10.74 Slack adjusters Meritor (clearance sensing), automatic type _____

12.75 Parking brake Spring set, four (4) chamber system _____

10.76 Brake pots Vented type _____

10.77 Dust shields Required, front and rear _____

10.78 Moisture ejector Bendix DV-2, heated to wet tank _____

10.79 Drain valves Manual, chain or cable operated, required on each
 air tank _____

10.80 Air dryer Wabco System Saver 1200 _____

10.81 Air Tanks Must be aluminum or Stainless steel or aluminum straps
 with minimum 1/16 in. rubber or neoprene isolators to
 prevent galvanic corrosion _____

FUEL TANK-

10.82 Type Aluminium, 225 L capacity, fully fuelled
 upon delivery, **state** location- _____

10.82.1 Option Bidder shall **state** optional price for the largest fuel tank(s)
 Combination, but not to exceed the back of cab and
 Not impede in body installation. _____

10.83 Tank straps Stainless steel or aluminum straps with minimum
 1/16 in. rubber or neoprene isolators to prevent
 galvanic corrosion _____

10.84 Fuel separator Heated, drainable _____

CAB-

10.85 Type Conventional w/corrosion inhibitor _____

10.86 Construction Aluminum or galvanized steel _____

10.87 Front bumper to back of cab BBC 106"- 117" _____

10.88 Cab mounts Air suspension _____

10.89 Front grille Stationary type _____

10.90	Cab interior / trim	Extreme climate insulation including cloth or vinyl headliner on roof, door panels and rear interior of cab	_____
10.91	Cab silencer package	Required for minimal decibel level	_____
10.92	Hood/Firewall/Engine	Insulated hood liner, engine cover and firewall	_____
10.93	Floor covering	Rubber mat with under-padding	_____
10.94	Floor mats	Two (2) heavy-duty rubber	_____
10.95	Driver's seat	High back, air suspension w/foldable armrests, lumbar support, heavy-duty cloth upholstery, complete with seat covers.	_____
10.96	Passenger seat	High back or mid back stationary mount non-suspension Passenger seat, heavy-duty cloth upholstery, complete with seat covers.	_____
10.97	Sun visors	Dual flip-up type	_____
10.98	Steering wheel	Tilt and telescopic type	_____
10.99	12-Volt power outlet	(2) Required	_____
10.100	Radio	Factory installed AM/FM/CD with blue tooth hands free capability	_____
10.101	Starter switch	Key operated c/w three (3) sets of keys	_____
10.102	Interior light	Dome light with driver and passenger door switches	_____
10.103	Heater / Defroster	High output, capable of keeping all windows clear at an outside temperature of -35°F (-37°C)	_____
10.104	Air conditioning	Required	_____
10.105	Brake & accel. pedals	Floor or hanging type brake and accelerator pedal, State-	_____
10.106	Horn	Dual electric	_____
10.107	Exterior mirrors	Dual heated, lighted exterior mirrors. Shall come with convex mirrors. Suitable for 102 in. equipment width	_____
10.108	Down view mirror	Required over passenger door, state size-	_____
10.109	Windows & windshield	Factory Tint	_____
10.110	Power windows	Required on driver and passenger side. Controls for both windows required on driver side	_____
10.111	Windshield wipers	Electric, intermittent	_____
10.112	Wiper blades	Snow type with sealed boot preferred.	_____
10.113	Windshield washers	Electric, required with spray nozzles on wiper	_____

	Blades preferred.	_____
10.114	Grab handles	Dual exterior _____
10.115	Entrance steps	Dual each side, open grate / grip type _____
10.116	Winter front	Heavy-duty vinyl w/twist lock or snap type fasteners _____
10.117	Fender extensions	Front Fender extensions required _____
10.118	Exterior Visor	Exterior sun visor required _____
10.119	Dash	Wing type dash for operator convenience preferred _____
10.120	Fender Mtd. Mirrors & Snow Plow Lighting Wiring Provisions	Factory installed fender mounted mirrors with Snow Plow Lighting wiring provisions for body builder installed Snow Plow lights. _____
10.121	Flare kit	Required, state location _____
10.122	Fire Extinguisher	(5) lbs. required, state location _____
10.123	First aid kit	Required, state location _____

INSTRUMENTATION-

10.124	Oil pressure	Gauge _____
10.125	Coolant temperature	Gauge _____
10.126	Transmission oil temp.	Gauge _____
10.127	LOP/HWT	Warning light and buzzer _____
10.128	Voltmeter	Gauge _____
10.129	Air reservoir pressure	Gauge with LAP warning light and buzzer _____
10.130	Engine hour-meter	Required, non-resettable type _____
10.130.1	Weight Scale-	OEM installed Model "Air-Weigh Truck Scales" dash mounted. Shall be able to provide steer and drive axles weights. _____

TOW HOOKS-

10.131	Location	(2) front inside frame rail, (2) rear mounted _____
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FRONT BUMPER-

10.132	Type	Front bumper delete _____
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COLOUR-

10.133	Exterior	White _____
10.134	Interior	Blue or grey _____

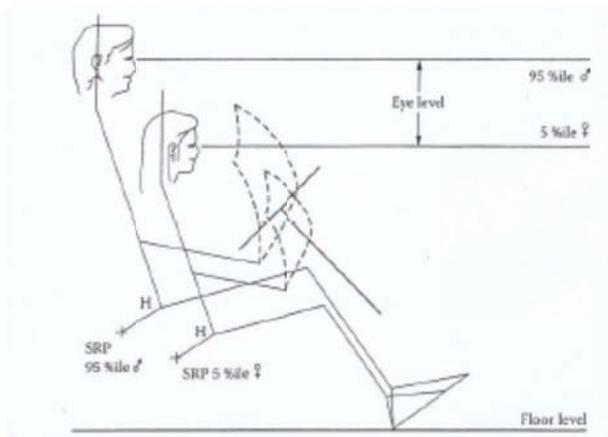
10.135 Frame & suspension Primed and finished with black Imron 5000 paint _____

ACCESSORIES-

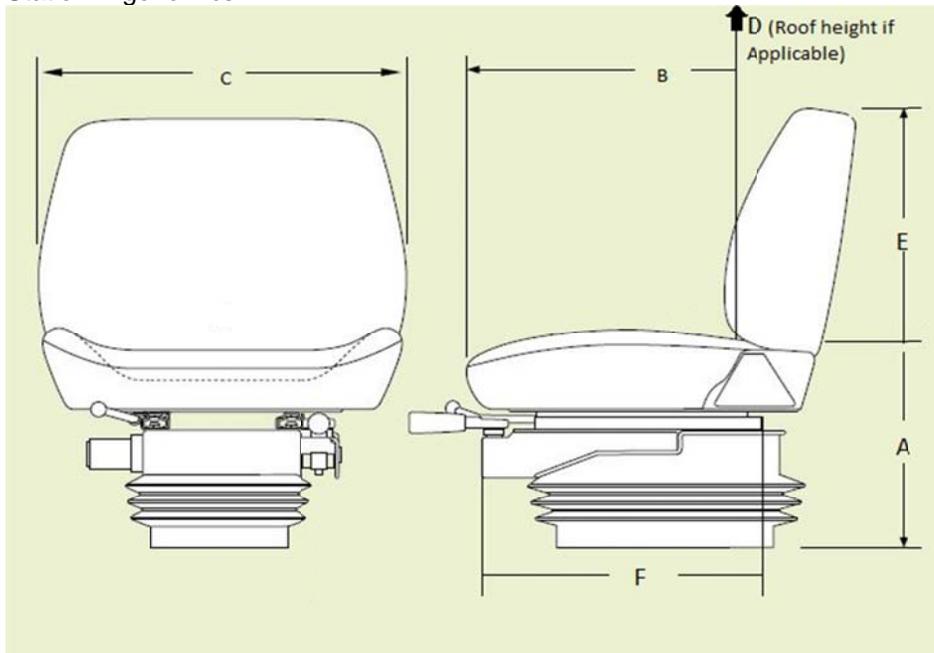
10.136 Nut Indicators Wheel nut indicators on all wheel lug nuts required _____

**OPERATOR STATION
ERGONOMICS**

10.137 Cab or station layout should provide a comfortable seating position for the 5th to the 95th percentile of personnel. Figure 1 below illustrates the variance between a 5th to a 95th percentile of North American males and females when seated.



10.138 Figure 2: Use the below diagram to answer the specifications for Operator Station Ergonomics.



10.139	Sitting height range from floor (where feet rest) (A)	State , seat height range in inches	_____
10.140	Seat length/depth (B)	State , seat length/depth in inches	_____
10.141	Seat width (C)	State , seat width in inches	_____
10.142	Cab height from seat to roof (if applicable) (D)	State , cab height range in inches	_____
10.143	Back rest height (E)	State , back rest height in inches	_____
10.144	Seat travel range (F)	State , seat travel in inches	_____
10.145	Include any other relevant ergonomic specifications and applicable range of adjustment		_____

WARRANTY

10.146	All warranty information shall be detailed and include all exclusions. The successful bidder shall provide all published warranty information upon delivery of the equipment. Bidder shall state all warranty information.		_____
10.147	Basic Vehicle	One (1) year, unlimited km state-	_____
10.148	Batteries	One (1) year, unlimited km state-	_____
10.149	Drivetrain	Two (2) years, unlimited km state-	_____
10.150	Cab structure/ corrosion	Five (5) years, unlimited km state-	_____
10.151	Frame & Cross-members	Five (5) years, unlimited km state-	_____
10.152	Cab paint	One (1) year or 100 000 km state-	_____
10.153	Engine	Three (3) years or 240 000 km state-	_____
10.154	Transmission	Two (2) years, unlimited km state-	_____
10.155	Axles, front & rear	Two (2) years or 161,000 km	_____

**DELIVERY & DELIVERY
SCHEDULE-**

10.156 **Delivery Point:** _____

(12) Tandems- The complete units shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.I.V.S. (if applicable) to the WFMA 185 Tecumseh Street, Winnipeg MB. The successful bidder shall be notified by the Contractor Administrator the delivery address prior to issuance of the purchase order.

(4) Tandems- The complete units shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.I.V.S. (if applicable) to a drop ship location to the body manufacture by the Contractor Administrator prior to issuance of the purchase order.

10.157 **Delivery Time: (12) Tandems-** Sixteen to Eighteen (16-18) calendar weeks from the date of award. Equipment shall be delivered between 8:00 am and 3:00 pm on Business Days. _____

(4) Tandems- Eighteen to twenty (18-20) calendar weeks from the date of award. Equipment shall be delivered between 8:00 am and 3:00 pm on Business Days.

10.158 **Delivery Contact:** The Contractor shall contact the Contract Administrator prior to delivery of the equipment. _____

10.159 **P.D.I:** A pre-delivery inspection shall be performed by the Contractor on the equipment. Proof upon inspection including completed check list _____

MANUALS

10.160 Manuals supplied under this contract. The manuals shall cover the complete equipment including all components thereof, CD is preferred where available. _____

10.161 The following manuals shall be supplied with the units when delivered:

a) Operator's manual – Two (2) per unit (one operator manual shall be sent to the Equipment Operator Training Branch _____

b) Parts and service manuals – one (1) complete sets including preventative maintenance schedules. CDs or memory sticks are preferred _____

c) **State** optional price for online resources subscriptions and diagnostic tooling \$ _____

d) **State** optional price for towing coverage- \$ _____